



55382-23.ST25.txt
SEQUENCE LISTING

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Rosenberg, Gary

<120> METHODS AND COMPOSITIONS FOR DIAGNOSING HEPATOCELLULAR CARCINOMA

<130> 55382-23

<140> US 10/520,322

<141> 2004-12-30

<150> PCT/US03/20841

<151> 2003-07-03

<150> US60/393,982

<151> 2002-07-03

<160> 16

<170> PatentIn version 3.3

<210> 1

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<212> PRT

<213> Homo sapiens

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Met Lys Leu Ala Ser Gly Phe Leu Val Leu Trp Leu Ser Leu Gly Gly
1 5 10 15

Gly Leu Ala Gln Ser Asp Thr Ser Pro Asp Thr Glu Glu Ser Tyr Ser
20 25 30

Asp Trp Gly Leu Arg His Leu Arg Gly Ser Phe Glu Ser Val Asn Ser
35 40 45

Tyr Phe Asp Ser Phe Leu Glu Leu Leu Gly Gly Lys Asn Gly Val Cys
50 55 60

Gln Tyr Arg Cys Arg Tyr Gly Lys Ala Pro Met Pro Arg Pro Gly Tyr
65 70 75 80

Lys Pro Gln Glu Pro Asn Gly Cys Gly Ser Tyr Phe Leu Gly Leu Lys
85 90 95

Val Pro Glu Ser Met Asp Leu Gly Ile Pro Ala Met Thr Lys Cys Cys
100 105 110

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Asn Gln Leu Asp Val Cys Tyr Asp Thr Cys Gly Ala Asn Lys Tyr Arg
115 120 125

Cys Asp Ala Lys Phe Arg Trp Cys Leu His Ser Ile Cys Ser Asp Leu
130 135 140

Lys Arg Ser Leu Gly Phe Val Ser Lys Val Glu Ala Ala Cys Asp Ser
145 150 155 160

Leu Val Asp Thr Val Phe Asn Thr Val Trp Thr Leu Gly Cys Arg Pro
165 170 175

Phe Met Asn Ser Gln Arg Ala Ala Cys Ile Cys Ala Glu Glu Glu Lys
180 185 190

Glu Glu Leu
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Met Lys Leu Ala Ser Gly Phe Leu Val Leu Trp Leu Ser Leu Gly Gly
1 5 10 15

Gly Leu Ala Gln Ser Asp Thr Ser Pro Asp Thr Glu Glu Ser Tyr Ser
20 25 30

Asp Trp Gly Leu Arg His Leu Arg Gly Ser Phe Glu Ser Val Asn Ser
35 40 45

Tyr Phe Asp Ser Phe Leu Glu Leu Leu Gly Gly Lys Asn Gly Val Cys
50 55 60

Gln Tyr Arg Cys Arg Tyr Gly Lys Ala Pro Met Pro Arg Pro Gly Tyr
65 70 75 80

Lys Pro Gln Glu Pro Asn Gly Cys Gly Ser Tyr Phe Leu Gly Leu Lys
85 90 95

Val Pro Glu Ser Met Asp Leu Gly Ile Pro Ala Met Thr Lys Cys Cys
100 105 110

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Asn Gln Leu Asp Val Cys Tyr Asp Thr Cys Gly Ala Asn Lys Tyr Arg
115 120 125

Cys Asp Ala Lys Phe Arg Trp Cys Leu His Ser Ile Cys Ser Asp Leu
130 135 140

Lys Arg Ser Leu Gly Phe Val Ser Lys Val Glu Ala Cys Asp Ser Leu
145 150 155 160

Val Asp Thr Val Phe Asn Thr Val Trp Thr Leu Gly Cys Arg Pro Phe
165 170 175

Met Asn Ser Gln Arg Ala Ala Cys Ile Cys Ala Glu Glu Glu Lys Glu
180 185 190

Glu Leu

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<213> Homo sapiens

<400> 3

Met Tyr Ser Asn Val Ile Gly Thr Val Thr Ser Gly Lys Arg Lys Val
1 5 10 15

Tyr Leu Leu Ser Leu Leu Leu Ile Gly Phe Trp Asp Cys Val Thr Cys
20 25 30

His Gly Ser Pro Val Asp Ile Cys Thr Ala Lys Pro Arg Asp Ile Pro
35 40 45

Met Asn Pro Met Cys Ile Tyr Arg Ser Pro Glu Lys Lys Ala Thr Glu
50 55 60

Asp Glu Gly Ser Glu Gln Lys Ile Pro Glu Ala Thr Asn Arg Arg Val
65 70 75 80

Trp Glu Leu Ser Lys Ala Asn Ser Arg Phe Ala Thr Thr Phe Tyr Gln
85 90 95

His Leu Ala Asp Ser Lys Asn Asp Asn Asp Asn Ile Phe Leu Ser Pro
100 105 110

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Leu Ser Ile Ser Thr Ala Phe Ala Met Thr Lys Leu Gly Ala Cys Asn
 115 120 125

Asp Thr Leu Gln Gln Leu Met Glu Val Phe Lys Phe Asp Thr Ile Ser
 130 135 140

Glu Lys Thr Ser Asp Gln Ile His Phe Phe Phe Ala Lys Leu Asn Cys
 145 150 155 160

Arg Leu Tyr Arg Lys Ala Asn Lys Ser Ser Lys Leu Val Ser Ala Asn
 165 170 175

Arg Leu Phe Gly Asp Lys Ser Leu Thr Phe Asn Glu Thr Tyr Gln Asp
 180 185 190

Ile Ser Glu Leu Val Tyr Gly Ala Lys Leu Gln Pro Leu Asp Phe Lys
 195 200 205

Glu Asn Ala Glu Gln Ser Arg Ala Ala Ile Asn Lys Trp Val Ser Asn
 210 215 220

Lys Thr Glu Gly Arg Ile Thr Asp Val Ile Pro Ser Glu Ala Ile Asn
 225 230 235 240

Glu Leu Thr Val Leu Val Leu Val Asn Thr Ile Tyr Phe Lys Gly Leu
 245 250 255

Trp Lys Ser Lys Phe Ser Pro Glu Asn Thr Arg Lys Glu Leu Phe Tyr
 260 265 270

Lys Ala Asp Gly Glu Ser Cys Ser Ala Ser Met Met Tyr Gln Glu Gly
 275 280 285

Lys Phe Arg Tyr Arg Arg Val Ala Glu Gly Thr Gln Val Leu Glu Leu
 290 295 300

Pro Phe Lys Gly Asp Asp Ile Thr Met Val Leu Ile Leu Pro Lys Pro
 305 310 315 320

Glu Lys Ser Leu Ala Lys Val Glu Lys Glu Leu Thr Pro Glu Val Leu
 325 330 335

Gln Glu Trp Leu Asp Glu Leu Glu Glu Met Met Leu Val Val His Met
 340 345 350

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Pro Arg Phe Arg Ile Glu Asp Gly Phe Ser Leu Lys Glu Gln Leu Gln
355 360 365

Asp Met Gly Leu Val Asp Leu Phe Ser Pro Glu Lys Ser Lys Leu Pro
370 375 380

Gly Ile Val Ala Glu Gly Arg Asp Asp Leu Tyr Val Ser Asp Ala Phe
385 390 395 400

His Lys Ala Phe Leu Glu Val Asn Glu Glu Gly Ser Glu Ala Ala Ala
405 410 415

Ser Thr Ala Val Val Ile Ala Gly Arg Ser Leu Asn Pro Asn Arg Val
420 425 430

Thr Phe Lys Ala Asn Arg Pro Phe Leu Val Phe Ile Arg Glu Val Pro
435 440 445

Leu Asn Thr Ile Ile Phe Met Gly Arg Val Ala Asn Pro Cys Val Lys
450 455 460

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His Ile Asn Ile Asp Gln Phe Val Arg Lys Tyr Arg Ala Ala Leu Gly
1 5 10 15

Lys Leu Pro Gln Gln Ala Asn Asp Tyr Leu Asn Ser Phe Asn Trp Glu
20 25 30

Arg Gln Val Ser His Ala Lys Glu Lys Leu Thr Ala Leu Thr Lys Lys
35 40 45

Tyr Arg Ile Thr Glu Asn Asp Ile Gln Ile Ala Leu Asp Asp Ala Lys
50 55 60

Ile Asn Phe Asn Glu Lys Leu Ser Gln Leu Gln Thr Tyr Met Ile Gln
65 70 75 80

Phe Asp Gln Tyr Ile Lys Asp Ser Tyr Asp Leu His Asp Leu Lys Ile
85 90 95

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Ala Ile Ala Asn Ile Ile Asp Glu Ile Ile Glu Lys Leu Lys Ser Leu
100 105 110

Asp Glu His Tyr His Ile Arg Val Asn Leu Val Lys Thr Ile His Asp
115 120 125

Leu His Leu Phe Ile Glu Asn Ile Asp Phe Asn Lys Ser Gly Ser Ser
130 135 140

Thr Ala Ser Trp Ile Gln Asn Val Asp Thr Lys Tyr Gln Ile Arg Ile
145 150 155 160

Gln Ile Gln Glu Lys Leu Gln Gln Leu Lys Arg His Ile Gln Asn Ile
165 170 175

Asp Ile Gln His Leu Ala Gly Lys Leu Lys Gln His Ile Glu Ala Ile
180 185 190

Asp Val Arg Val Leu Leu Asp Gln Leu Gly Thr Thr Ile Ser Phe Glu
195 200 205

Arg Ile Asn Asp Val Leu Glu His Val Lys His Phe Val Ile Asn Leu
210 215 220

Ile Gly Asp Phe Glu Val Ala Glu Lys Ile Asn Ala Phe Arg Ala Lys
225 230 235 240

Val His Glu Leu Ile Glu Arg Tyr Glu Val Asp Gln Gln Ile Gln Val
245 250 255

Leu Met Asp Lys Leu Val Glu Leu Thr His Gln Tyr Lys Leu Lys Glu
260 265 270

Thr Ile Gln Lys Leu Ser Asn Val Leu Gln Gln Val Lys Ile Lys Asp
275 280 285

Tyr Phe Glu Lys Leu Val Gly Phe Ile Asp Asp Ala Val Lys Lys Leu
290 295 300

Asn Glu Leu Ser Phe Lys Thr Phe Ile Glu Asp Val Asn Lys Phe Leu
305 310 315 320

Asp Met Leu Ile Lys Lys Leu Lys Ser Phe Asp Tyr His Gln Phe Val
325 330 335

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Asp Glu Thr Asn Asp Lys Ile Arg Glu Val Thr Gln Arg Leu Asn Gly
340 345 350

Glu Ile Gln Ala Leu Glu Leu Pro Gln Lys Ala Glu Ala Leu Lys Leu
355 360 365

Phe Leu Glu Glu Thr Lys Ala Thr Val Ala Val Tyr Leu Glu Ser Leu
370 375 380

Gln Asp Thr Lys Ile Thr Leu Ile Ile Asn Trp Leu Gln Glu Ala Leu
385 390 395 400

Ser Ser Ala Ser Leu Ala His Met Lys Ala Lys Phe Arg Glu Thr Leu
405 410 415

Glu Asp Thr Arg Asp Arg Met Tyr Gln Met Asp Ile Gln Gln Glu Leu
420 425 430

Gln Arg Tyr Leu Ser Leu Val Gly Gln Val Tyr Ser Thr Leu Val Thr
435 440 445

Tyr Ile Ser Asp Trp Trp Thr Leu Ala Ala Lys Asn Leu Thr Asp Phe
450 455 460

Ala Glu Gln Tyr Ser Ile Gln Asp Trp Ala Lys Arg Met Lys Ala Leu
465 470 475 480

Val Glu Gln Gly Phe Thr Val Pro Glu Ile Lys Thr Ile Leu Gly Thr
485 490 495

Met Pro Ala Phe Glu Val Ser Leu Gln Ala Leu Gln Lys Ala Thr Phe
500 505 510

Gln Thr Pro Asp Phe Ile Val Pro Leu Thr Asp Leu Arg Ile Pro Ser
515 520 525

Val Gln Ile Asn Phe Lys Asp Leu Lys Asn Ile Lys Ile Pro Ser Arg
530 535 540

Phe Ser Thr Pro Glu Phe Thr Ile Leu Asn Thr Phe His Ile Pro Ser
545 550 555 560

Phe Thr Ile Asp Phe Val Glu Met Lys Val Lys Ile Ile Arg Thr Ile

565

570

575

Asp Gln Met Gln Asn Ser Glu Leu Gln Trp Pro Val Pro Asp Ile Tyr
 580 585 590

Leu Arg Asp Leu Lys Val Glu Asp Ile Pro Leu Ala Arg Ile Thr Leu
 595 600 605

Pro Asp Phe Arg Leu Pro Glu Ile Ala Ile Pro Glu Phe Ile Ile Pro
 610 615 620

Thr Leu Asn Leu Asn Asp Phe Gln Val Pro Asp Leu His Ile Pro Glu
 625 630 635 640

Phe Gln Leu Pro His Ile Ser His Thr Ile Glu Val Pro Thr Phe Gly
 645 650 655

Lys Leu Tyr Ser Ile Leu Lys Ile Gln Ser Pro Leu Phe Thr Leu Asp
 660 665 670

Ala Asn Ala Asp Ile Gly Asn Gly Thr Thr Ser Ala Asn Glu Ala Gly
 675 680 685

Ile Ala Ala Ser Ile Thr Ala Lys Gly Glu Ser Lys Leu Glu Val Leu
 690 695 700

Asn Phe Asp Phe Gln Ala Asn Ala Gln Leu Ser Asn Pro Lys Ile Asn
 705 710 715 720

Pro Leu Ala Leu Lys Glu Ser Val Lys Phe Ser Ser Lys Tyr Leu Arg
 725 730 735

Thr Glu His Gly Ser Glu Met Leu Phe Phe Gly Asn Ala Ile Glu Gly
 740 745 750

Lys Ser Asn Thr Val Ala Ser Leu His Thr Glu Lys Asn Thr Leu Glu
 755 760 765

Leu Ser Asn Gly Val Ile Val Lys Ile Asn Asn Gln Leu Thr Leu Asp
 770 775 780

Ser Asn Thr Lys Tyr Phe His Lys Leu Asn Ile Pro Lys Leu Asp Phe
 785 790 795 800

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Ser Ser Gln Ala Asp Leu Arg Asn Glu Ile Lys Thr Leu Leu Lys Ala
805 810 815

Gly His Ile Ala Trp Thr Ser Ser Gly Lys Gly Ser Trp Lys Trp Ala
820 825 830

Cys Pro Arg Phe Ser Asp Glu Gly Thr His Glu Ser Gln Ile Ser Phe
835 840 845

Thr Ile Glu Gly Pro Leu Thr Ser Phe Gly Leu Ser Asn Lys Ile Asn
850 855 860

Ser Lys His Leu Arg Val Asn Gln Asn Leu Val Tyr Glu Ser Gly Ser
865 870 875 880

Leu Asn Phe Ser Lys Leu Glu Ile Gln Ser Gln Val Asp Ser Gln His
885 890 895

Val Gly His Ser Val Leu Thr Ala Lys Gly Met Ala Leu Phe Gly Glu
900 905 910

Gly Lys Ala Glu Phe Thr Gly Arg His Asp Ala His Leu Asn Gly Lys
915 920 925

Val Ile Gly Thr Leu Lys Asn Ser Leu Phe Phe Ser Ala Gln Pro Phe
930 935 940

Glu Ile Thr Ala Ser Thr Asn Asn Glu Gly Asn Leu Lys Val Arg Phe
945 950 955 960

Pro Leu Arg Leu Thr Gly Lys Ile Asp Phe Leu Asn Asn Tyr Ala Leu
965 970 975

Phe Leu Ser Pro Ser Ala Gln Gln Ala Ser Trp Gln Val Ser Ala Arg
980 985 990

Phe Asn Gln Tyr Lys Tyr Asn Gln Asn Phe Ser Ala Gly Asn Asn Glu
995 1000 1005

Asn Ile Met Glu Ala His Val Gly Ile Asn Gly Glu Ala Asn Leu
1010 1015 1020

Asp Phe Leu Asn Ile Pro Leu Thr Ile Pro Glu Met Arg Leu Pro
1025 1030 1035

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Tyr Thr Ile Ile Thr Thr Pro Pro Leu Lys Asp Phe Ser Leu Trp
 1040 1045 1050

 Glu Lys Thr Gly Leu Lys Glu Phe Leu Lys Thr Thr Lys Gln Ser
 1055 1060 1065

 Phe Asp Leu Ser Val Lys Ala Gln Tyr Lys Lys Asn Lys His Arg
 1070 1075 1080

 His Ser Ile Thr Asn Pro Leu Ala Val Leu Cys Glu Phe Ile Ser
 1085 1090 1095

 Gln Ser Ile Lys Ser Phe Asp Arg His Phe Glu Lys Asn Arg Asn
 1100 1105 1110

 Asn Ala Leu Asp Phe Val Thr Lys Ser Tyr Asn Glu Thr Lys Ile
 1115 1120 1125

 Lys Phe Asp Lys Tyr Lys Ala Glu Lys Ser His Asp Glu Leu Pro
 1130 1135 1140

 Arg Thr Phe Gln Ile Pro Gly Tyr Thr Val Pro Val Val Asn Val
 1145 1150 1155

 Glu Val Ser Pro Phe Thr Ile Glu Met Ser Ala Phe Gly Tyr Val
 1160 1165 1170

 Phe Pro Lys Ala Val Ser Met Pro Ser Phe Ser Ile Leu Gly Ser
 1175 1180 1185

 Asp Val Arg Val Pro Ser Tyr Thr Leu Ile Leu Pro Ser Leu Glu
 1190 1195 1200

 Leu Pro Val Leu His Val Pro Arg Asn Leu Lys Leu Ser Leu Pro
 1205 1210 1215

 His Phe Lys Glu Leu Cys Thr Ile Ser His Ile Phe Ile Pro Ala
 1220 1225 1230

 Met Gly Asn Ile Thr Tyr Asp Phe Ser Phe Lys Ser Ser Val Ile
 1235 1240 1245

 Thr Leu Asn Thr Asn Ala Glu Leu Phe Asn Gln Ser Asp Ile Val
 1250 1255 1260

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Ala	His	Leu	Leu	Ser	Ser	Ser	Ser	Ser	Val	Ile	Asp	Ala	Leu	Gln
1265						1270					1275			
Tyr	Lys	Leu	Glu	Gly	Thr	Thr	Arg	Leu	Thr	Arg	Lys	Arg	Gly	Leu
1280						1285					1290			
Lys	Leu	Ala	Thr	Ala	Leu	Ser	Leu	Ser	Asn	Lys	Phe	Val	Glu	Gly
1295						1300					1305			
Ser	His	Asn	Ser	Thr	Val	Ser	Leu	Thr	Thr	Lys	Asn	Met	Glu	Val
1310						1315					1320			
Ser	Val	Ala	Lys	Thr	Thr	Lys	Ala	Glu	Ile	Pro	Ile	Leu	Arg	Met
1325						1330					1335			
Asn	Phe	Lys	Gln	Glu	Leu	Asn	Gly	Asn	Thr	Lys	Ser	Lys	Pro	Thr
1340						1345					1350			
Val	Ser	Ser	Ser	Met	Glu	Phe	Lys	Tyr	Asp	Phe	Asn	Ser	Ser	Met
1355						1360					1365			
Leu	Tyr	Ser	Thr	Ala	Lys	Gly	Ala	Val	Asp	His	Lys	Leu	Ser	Leu
1370						1375					1380			
Glu	Ser	Leu	Thr	Ser	Tyr	Phe	Ser	Ile	Glu	Ser	Ser	Thr	Lys	Gly
1385						1390					1395			
Asp	Val	Lys	Gly	Ser	Val	Leu	Ser	Arg	Glu	Tyr	Ser	Gly	Thr	Ile
1400						1405					1410			
Ala	Ser	Glu	Ala	Asn	Thr	Tyr	Leu	Asn	Ser	Lys	Ser	Thr	Arg	Ser
1415						1420					1425			
Ser	Val	Lys	Leu	Gln	Gly	Thr	Ser	Lys	Ile	Asp	Asp	Ile	Trp	Asn
1430						1435					1440			
Leu	Glu	Val	Lys	Glu	Asn	Phe	Ala	Gly	Glu	Ala	Thr	Leu	Gln	Arg
1445						1450					1455			
Ile	Tyr	Ser	Leu	Trp	Glu	His	Ser	Thr	Lys	Asn	His	Leu	Gln	Leu
1460						1465					1470			
Glu	Gly	Leu	Phe	Phe	Thr	Asn	Gly	Glu	His	Thr	Ser	Lys	Ala	Thr

1475		1480		1485
Leu Glu Leu Ser Pro Trp Gln Met Ser Ala Leu Val Gln Val His				
1490		1495		1500
Ala Ser Gln Pro Ser Ser Phe His Asp Phe Pro Asp Leu Gly Gln				
1505		1510		1515
Glu Val Ala Leu Asn Ala Asn Thr Lys Asn Gln Lys Ile Arg Trp				
1520		1525		1530
Lys Asn Glu Val Arg Ile His Ser Gly Ser Phe Gln Ser Gln Val				
1535		1540		1545
Glu Leu Ser Asn Asp Gln Glu Lys Ala His Leu Asp Ile Ala Gly				
1550		1555		1560
Ser Leu Glu Gly His Leu Arg Phe Leu Lys Asn Ile Ile Leu Pro				
1565		1570		1575
Val Tyr Asp Lys Ser Leu Trp Asp Phe Leu Lys Leu Asp Val Thr				
1580		1585		1590
Thr Ser Ile Gly Arg Arg Gln His Leu Arg Val Ser Thr Ala Phe				
1595		1600		1605
Val Tyr Thr Lys Asn Pro Asn Gly Tyr Ser Phe Ser Ile Pro Val				
1610		1615		1620
Lys Val Leu Ala Asp Lys Phe Ile Thr Pro Gly Leu Lys Leu Asn				
1625		1630		1635
Asp Leu Asn Ser Val Leu Val Met Pro Thr Phe His Val Pro Phe				
1640		1645		1650
Thr Asp Leu Gln Val Pro Ser Cys Lys Leu Asp Phe Arg Glu Ile				
1655		1660		1665
Gln Ile Tyr Lys Lys Leu Arg Thr Ser Ser Phe Ala Leu Asn Leu				
1670		1675		1680
Pro Thr Leu Pro Glu Val Lys Phe Pro Glu Val Asp Val Leu Thr				
1685		1690		1695

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Lys Tyr Ser Gln Pro Glu Asp Ser Leu Ile Pro Phe Phe Glu Ile
 1700 1705 1710

 Thr Val Pro Glu Ser Gln Leu Thr Val Ser Gln Phe Thr Leu Pro
 1715 1720 1725

 Lys Ser Val Ser Asp Gly Ile Ala Ala Leu Asp Leu Asn Ala Val
 1730 1735 1740

 Ala Asn Lys Ile Ala Asp Phe Glu Leu Pro Thr Ile Ile Val Pro
 1745 1750 1755

 Glu Gln Thr Ile Glu Ile Pro Ser Ile Lys Phe Ser Val Pro Ala
 1760 1765 1770

 Gly Ile Val Ile Pro Ser Phe Gln Ala Leu Thr Ala Arg Phe Glu
 1775 1780 1785

 Val Asp Ser Pro Val Tyr Asn Ala Thr Trp Ser Ala Ser Leu Lys
 1790 1795 1800

 Asn Lys Ala Asp Tyr Val Glu Thr Val Leu Asp Ser Thr Cys Ser
 1805 1810 1815

 Ser Thr Val Gln Phe Leu Glu Tyr Glu Leu Asn Val Leu Gly Thr
 1820 1825 1830

 His Lys Ile Glu Asp Gly Thr Leu Ala Ser Lys Thr Lys Gly Thr
 1835 1840 1845

 Leu Ala His Arg Asp Phe Ser Ala Glu Tyr Glu Glu Asp Gly Lys
 1850 1855 1860

 Phe Glu Gly Leu Gln Glu Trp Glu Gly Lys Ala His Leu Asn Ile
 1865 1870 1875

 Lys Ser Pro Ala Phe Thr Asp Leu His Leu Arg Tyr Gln Lys Asp
 1880 1885 1890

 Lys Lys Gly Ile Ser Thr Ser Ala Ala Ser Pro Ala Val Gly Thr
 1895 1900 1905

 Val Gly Met Asp Met Asp Glu Asp Asp Asp Phe Ser Lys Trp Asn
 1910 1915 1920

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Phe	Tyr	Tyr	Ser	Pro	Gln	Ser	Ser	Pro	Asp	Lys	Lys	Leu	Thr	Ile
1925						1930					1935			
Phe	Lys	Thr	Glu	Leu	Arg	Val	Arg	Glu	Ser	Asp	Glu	Glu	Thr	Gln
1940						1945					1950			
Ile	Lys	Val	Asn	Trp	Glu	Glu	Glu	Ala	Ala	Ser	Gly	Leu	Leu	Thr
1955						1960					1965			
Ser	Leu	Lys	Asp	Asn	Val	Pro	Lys	Ala	Thr	Gly	Val	Leu	Tyr	Asp
1970						1975					1980			
Tyr	Val	Asn	Lys	Tyr	His	Trp	Glu	His	Thr	Gly	Leu	Thr	Leu	Arg
1985						1990					1995			
Glu	Val	Ser	Ser	Lys	Leu	Arg	Arg	Asn	Leu	Gln	Asn	Asn	Ala	Glu
2000						2005					2010			
Trp	Val	Tyr	Gln	Gly	Ala	Ile	Arg	Gln	Ile	Asp	Asp	Ile	Asp	Val
2015						2020					2025			
Arg	Phe	Gln	Lys	Ala	Ala	Ser	Gly	Thr	Thr	Gly	Thr	Tyr	Gln	Glu
2030						2035					2040			
Trp	Lys	Asp	Lys	Ala	Gln	Asn	Leu	Tyr	Gln	Glu	Leu	Leu	Thr	Gln
2045						2050					2055			
Glu	Gly	Gln	Ala	Ser	Phe	Gln	Gly	Leu	Lys	Asp	Asn	Val	Phe	Asp
2060						2065					2070			
Gly	Leu	Val	Arg	Val	Thr	Gln	Lys	Phe	His	Met	Lys	Val	Lys	His
2075						2080					2085			
Leu	Ile	Asp	Ser	Leu	Ile	Asp	Phe	Leu	Asn	Phe	Pro	Arg	Phe	Gln
2090						2095					2100			
Phe	Pro	Gly	Lys	Pro	Gly	Ile	Tyr	Thr	Arg	Glu	Glu	Leu	Cys	Thr
2105						2110					2115			
Met	Phe	Ile	Arg	Glu	Val	Gly	Thr	Val	Leu	Ser	Gln	Val	Tyr	Ser
2120						2125					2130			
Lys	Val	His	Asn	Gly	Ser	Glu	Ile	Leu	Phe	Ser	Tyr	Phe	Gln	Asp
2135						2140					2145			

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Leu Val	Ile Thr	Leu Pro	Phe	Glu Leu	Arg Lys	His	Lys Leu	Ile
2150			2155			2160		
Asp Val	Ile Ser	Met Tyr	Arg	Glu Leu	Leu Lys	Asp	Leu Ser	Lys
2165			2170			2175		
Glu Ala	Gln Glu	Val Phe	Lys	Ala Ile	Gln Ser	Leu	Lys Thr	Thr
2180			2185			2190		
Glu Val	Leu Arg	Asn Leu	Gln	Asp Leu	Leu Gln	Phe	Ile Phe	Gln
2195			2200			2205		
Leu Ile	Glu Asp	Asn Ile	Lys	Gln Leu	Lys Glu	Met	Lys Phe	Thr
2210			2215			2220		
Tyr Leu	Ile Asn	Tyr Ile	Gln	Asp Glu	Ile Asn	Thr	Ile Phe	Asn
2225			2230			2235		
Asp Tyr	Ile Pro	Tyr Val	Phe	Lys Leu	Leu Lys	Glu	Asn Leu	Cys
2240			2245			2250		
Leu Asn	Leu His	Lys Phe	Asn	Glu Phe	Ile Gln	Asn	Glu Leu	Gln
2255			2260			2265		
Glu Ala	Ser Gln	Glu Leu	Gln	Gln Ile	His Gln	Tyr	Ile Met	Ala
2270			2275			2280		
Leu Arg	Glu Glu	Tyr Phe	Asp	Pro Ser	Ile Val	Gly	Trp Thr	Val
2285			2290			2295		
Lys Tyr	Tyr Glu	Leu Glu	Glu	Lys Ile	Val Ser	Leu	Ile Lys	Asn
2300			2305			2310		
Leu Leu	Val Ala	Leu Lys	Asp	Phe His	Ser Glu	Tyr	Ile Val	Ser
2315			2320			2325		
Ala Ser	Asn Phe	Thr Ser	Gln	Leu Ser	Ser Gln	Val	Glu Gln	Phe
2330			2335			2340		
Leu His	Arg Asn	Ile Gln	Glu	Tyr Leu	Ser Ile	Leu	Thr Asp	Pro
2345			2350			2355		
Asp Gly	Lys Gly	Lys Glu	Lys	Ile Ala	Glu Leu	Ser	Ala Thr	Ala

2360

2365

2370

Gln Glu Ile Ile Lys Ser Gln Ala Ile Ala Thr Lys Lys Ile Ile
 2375 2380 2385

Ser Asp Tyr His Gln Gln Phe Arg Tyr Lys Leu Gln Asp Phe Ser
 2390 2395 2400

Asp Gln Leu Ser Asp Tyr Tyr Glu Lys Phe Ile Ala Glu Ser Lys
 2405 2410 2415

Arg Leu Ile Asp Leu Ser Ile Gln Asn Tyr His Thr Phe Leu Ile
 2420 2425 2430

Tyr Ile Thr Glu Leu Leu Lys Lys Leu Gln Ser Thr Thr Val Met
 2435 2440 2445

Asn Pro Tyr Met Lys Leu Ala Pro Gly Glu Leu Thr Ile Ile Leu
 2450 2455 2460

<210> 5
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<400> 5

Met Lys Arg Val Leu Val Leu Leu Leu Ala Val Ala Phe Gly His Ala
 1 5 10 15

Leu Glu Arg Gly Arg Asp Tyr Glu Lys Asn Lys Val Cys Lys Glu Phe
 20 25 30

Ser His Leu Gly Lys Glu Asp Phe Thr Ser Leu Ser Leu Val Leu Tyr
 35 40 45

Ser Arg Lys Phe Pro Ser Gly Thr Phe Glu Gln Val Ser Gln Leu Val
 50 55 60

Lys Glu Val Val Ser Leu Thr Glu Ala Cys Cys Ala Glu Gly Ala Asp
 65 70 75 80

Pro Asp Cys Tyr Asp Thr Arg Thr Ser Ala Leu Ser Ala Lys Ser Cys
 85 90 95

Glu Ser Asn Ser Pro Phe Pro Val His Pro Gly Thr Ala Glu Cys Cys

100

105

110

Thr Lys Glu Gly Leu Glu Arg Lys Leu Cys Met Ala Ala Leu Lys His
 115 120 125

Gln Pro Gln Glu Phe Pro Thr Tyr Val Glu Pro Thr Asn Asp Glu Ile
 130 135 140

Cys Glu Ala Phe Arg Lys Asp Pro Lys Glu Tyr Ala Asn Gln Phe Met
 145 150 155 160

Trp Glu Tyr Ser Thr Asn Tyr Glu Gln Ala Pro Leu Ser Leu Leu Val
 165 170 175

Ser Tyr Thr Lys Ser Tyr Leu Ser Met Val Gly Ser Cys Cys Thr Ser
 180 185 190

Ala Ser Pro Thr Val Cys Phe Leu Lys Glu Arg Leu Gln Leu Lys His
 195 200 205

Leu Ser Leu Leu Thr Thr Leu Ser Asn Arg Val Cys Ser Gln Tyr Ala
 210 215 220

Ala Tyr Gly Glu Lys Lys Ser Arg Leu Ser Asn Leu Ile Lys Leu Ala
 225 230 235 240

Gln Lys Val Pro Thr Ala Asp Leu Glu Asp Val Leu Pro Leu Ala Glu
 245 250 255

Asp Ile Thr Asn Ile Leu Ser Lys Cys Cys Glu Ser Ala Ser Glu Asp
 260 265 270

Cys Met Ala Lys Glu Leu Pro Glu His Thr Val Lys Leu Cys Asp Asn
 275 280 285

Leu Ser Thr Lys Asn Ser Lys Phe Glu Asp Cys Cys Gln Glu Lys Thr
 290 295 300

Ala Met Asp Val Phe Val Cys Thr Tyr Phe Met Pro Ala Ala Gln Leu
 305 310 315 320

Pro Glu Leu Pro Asp Val Arg Leu Pro Thr Asn Lys Asp Val Cys Asp
 325 330 335

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Pro Gly Asn Thr Lys Val Met Asp Lys Tyr Thr Phe Glu Leu Ser Arg
340 345 350

Arg Thr His Leu Pro Glu Val Phe Leu Ser Lys Val Leu Glu Pro Thr
355 360 365

Leu Lys Ser Leu Gly Glu Cys Cys Asp Val Glu Asp Ser Thr Thr Cys
370 375 380

Phe Asn Ala Lys Gly Pro Leu Leu Lys Lys Glu Leu Ser Ser Phe Ile
385 390 395 400

Asp Lys Gly Gln Glu Leu Cys Ala Asp Tyr Ser Glu Asn Thr Phe Thr
405 410 415

Glu Tyr Lys Lys Lys Leu Ala Glu Arg Leu Lys Ala Lys Leu Pro Glu
420 425 430

Ala Thr Pro Thr Glu Leu Ala Lys Leu Val Asn Lys Arg Ser Asp Phe
435 440 445

Ala Ser Asn Cys Cys Ser Ile Asn Ser Pro Pro Leu Tyr Cys Asp Ser
450 455 460

Glu Ile Asp Ala Glu Leu Lys Asn Ile Leu
465 470

<210> 6
<211> 474
<212> PRT
<213> Homo sapiens

<400> 6

Met Lys Arg Val Leu Val Leu Leu Leu Ala Val Ala Phe Gly His Ala
1 5 10 15

Leu Glu Arg Gly Arg Asp Tyr Glu Lys Asn Lys Val Cys Lys Glu Phe
20 25 30

Ser His Leu Gly Lys Glu Asp Phe Thr Ser Leu Ser Leu Val Leu Tyr
35 40 45

Ser Arg Lys Phe Pro Ser Gly Thr Phe Glu Gln Val Ser Gln Leu Val
50 55 60

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Lys Glu Val Val Ser Leu Thr Glu Ala Cys Cys Ala Glu Gly Ala Asp
 65 70 75 80

Pro Asp Cys Tyr Asp Thr Arg Thr Ser Ala Leu Ser Ala Lys Ser Cys
 85 90 95

Glu Ser Asn Ser Pro Phe Pro Val His Pro Gly Thr Ala Glu Cys Cys
 100 105 110

Thr Lys Glu Gly Leu Glu Arg Lys Leu Cys Met Ala Ala Leu Lys His
 115 120 125

Gln Pro Gln Glu Phe Pro Thr Tyr Val Glu Pro Thr Asn Asp Glu Ile
 130 135 140

Cys Glu Ala Phe Arg Lys Asp Pro Lys Glu Tyr Ala Asn Gln Phe Met
 145 150 155 160

Trp Glu Tyr Ser Thr Asn Tyr Gly Gln Ala Pro Leu Ser Leu Leu Val
 165 170 175

Ser Tyr Thr Lys Ser Tyr Leu Ser Met Val Gly Ser Cys Cys Thr Ser
 180 185 190

Ala Ser Pro Thr Val Cys Phe Leu Lys Glu Arg Leu Gln Leu Lys His
 195 200 205

Leu Ser Leu Leu Thr Thr Leu Ser Asn Arg Val Cys Ser Gln Tyr Ala
 210 215 220

Ala Tyr Gly Glu Lys Lys Ser Arg Leu Ser Asn Leu Ile Lys Leu Ala
 225 230 235 240

Gln Lys Val Pro Thr Ala Asp Leu Glu Asp Val Leu Pro Leu Ala Glu
 245 250 255

Asp Ile Thr Asn Ile Leu Ser Lys Cys Cys Glu Ser Ala Ser Glu Asp
 260 265 270

Cys Met Ala Lys Glu Leu Pro Glu His Thr Val Lys Leu Cys Asp Asn
 275 280 285

Leu Ser Thr Lys Asn Ser Lys Phe Glu Asp Cys Cys Gln Glu Lys Thr
 290 295 300

55382-23.ST25.txt

Ala Met Asp Val Phe Val Cys Thr Tyr Phe Met Pro Ala Ala Gln Leu
305 310 315 320

Pro Glu Leu Pro Asp Val Glu Leu Pro Thr Asn Lys Asp Val Cys Asp
325 330 335

Pro Gly Asn Thr Lys Val Met Asp Lys Tyr Thr Phe Glu Leu Ser Arg
340 345 350

Arg Thr His Leu Pro Glu Val Phe Leu Ser Lys Val Leu Glu Pro Thr
355 360 365

Leu Lys Ser Leu Gly Glu Cys Cys Asp Val Glu Asp Ser Thr Thr Cys
370 375 380

Phe Asn Ala Lys Gly Pro Leu Leu Lys Lys Glu Leu Ser Ser Phe Ile
385 390 395 400

Asp Lys Gly Gln Glu Leu Cys Ala Asp Tyr Ser Glu Asn Thr Phe Thr
405 410 415

Glu Tyr Lys Lys Lys Leu Ala Glu Arg Leu Lys Ala Lys Leu Pro Glu
420 425 430

Ala Thr Pro Thr Glu Leu Ala Lys Leu Val Asn Lys Arg Ser Asp Phe
435 440 445

Ala Ser Asn Cys Cys Ser Ile Asn Ser Pro Pro Leu Tyr Cys Asp Ser
450 455 460

Glu Ile Asp Ala Glu Leu Lys Asn Ile Leu
465 470

<210> 7
<211> 318
<212> PRT
<213> Homo sapiens

<400> 7

Met Ala Ser Pro Gly Cys Leu Leu Cys Val Leu Gly Leu Leu Leu Cys
1 5 10 15

Gly Ala Ala Ser Leu Glu Leu Ser Arg Pro His Gly Asp Thr Ala Lys
20 25 30

55382-23.ST25.txt

Lys Pro Ile Ile Gly Ile Leu Met Gln Lys Cys Arg Asn Lys Val Met
 35 40 45
 Lys Asn Tyr Gly Arg Tyr Tyr Ile Ala Ala Ser Tyr Val Lys Tyr Leu
 50 55 60
 Glu Ser Ala Gly Ala Arg Val Val Pro Val Arg Leu Asp Leu Thr Glu
 65 70 75 80
 Lys Asp Tyr Glu Ile Leu Phe Lys Ser Ile Asn Gly Ile Leu Phe Pro
 85 90 95
 Gly Gly Ser Val Asp Leu Arg Arg Ser Asp Tyr Ala Lys Val Ala Lys
 100 105 110
 Ile Phe Tyr Asn Leu Ser Ile Gln Ser Phe Asp Asp Gly Asp Tyr Phe
 115 120 125
 Pro Val Trp Gly Thr Cys Leu Gly Phe Glu Glu Leu Ser Leu Leu Ile
 130 135 140
 Ser Gly Glu Cys Leu Leu Thr Ala Thr Asp Thr Val Asp Val Ala Met
 145 150 155 160
 Pro Leu Asn Phe Thr Gly Gly Gln Leu His Ser Arg Met Phe Gln Asn
 165 170 175
 Phe Pro Thr Glu Leu Leu Leu Ser Leu Ala Val Glu Pro Leu Thr Ala
 180 185 190
 Asn Phe His Lys Trp Ser Leu Ser Val Lys Asn Phe Thr Met Asn Glu
 195 200 205
 Lys Leu Lys Lys Phe Phe Asn Val Leu Thr Thr Asn Thr Asp Gly Lys
 210 215 220
 Ile Glu Phe Ile Ser Thr Met Glu Gly Tyr Lys Tyr Pro Val Tyr Gly
 225 230 235 240
 Val Gln Trp His Pro Glu Lys Ala Pro Tyr Glu Trp Lys Asn Leu Asp
 245 250 255
 Gly Ile Ser His Ala Pro Asn Ala Val Lys Thr Ala Phe Tyr Leu Ala
 260 265 270

55382-23.ST25.txt

Glu Phe Phe Val Asn Glu Ala Arg Lys Asn Asn His His Phe Lys Ser
275 280 285

Glu Ser Glu Glu Glu Lys Ala Leu Ile Tyr Gln Phe Ser Pro Ile Tyr
290 295 300

Thr Gly Asn Ile Ser Ser Phe Gln Gln Cys Tyr Ile Phe Asp
305 310 315

<210> 8

<211> 709

<212> PRT

<213> Homo sapiens

<400> 8

Met Ala Thr Ala Gly Gly Gly Ser Gly Ala Asp Pro Gly Ser Arg Gly
1 5 10 15

Leu Leu Arg Leu Leu Ser Phe Cys Val Leu Leu Ala Gly Leu Cys Arg
20 25 30

Gly Asn Ser Val Glu Arg Lys Ile Tyr Ile Pro Leu Asn Lys Thr Ala
35 40 45

Pro Cys Val Arg Leu Leu Asn Ala Thr His Gln Ile Gly Cys Gln Ser
50 55 60

Ser Ile Ser Gly Asp Thr Gly Val Ile His Val Val Glu Lys Glu Glu
65 70 75 80

Asp Leu Gln Trp Val Leu Thr Asp Gly Pro Asn Pro Pro Tyr Met Val
85 90 95

Leu Leu Glu Ser Lys His Phe Thr Arg Asp Leu Met Glu Lys Leu Lys
100 105 110

Gly Arg Thr Ser Arg Ile Ala Gly Leu Ala Val Ser Leu Thr Lys Pro
115 120 125

Ser Pro Ala Ser Gly Phe Ser Pro Ser Val Gln Cys Pro Asn Asp Gly
130 135 140

Phe Gly Val Tyr Ser Asn Ser Tyr Gly Pro Glu Phe Ala His Cys Arg
145 150 155 160

55382-23.ST25.txt

Glu Ile Gln Trp Asn Ser Leu Gly Asn Gly Leu Ala Tyr Glu Asp Phe
165 170 175

Ser Phe Pro Ile Phe Leu Leu Glu Asp Glu Asn Glu Thr Lys Val Ile
180 185 190

Lys Gln Cys Tyr Gln Asp His Asn Leu Ser Gln Asn Gly Ser Ala Pro
195 200 205

Thr Phe Pro Leu Cys Ala Met Gln Leu Phe Ser His Met His Ala Val
210 215 220

Ile Ser Thr Ala Thr Cys Met Arg Arg Ser Ser Ile Gln Ser Thr Phe
225 230 235 240

Ser Ile Asn Pro Glu Ile Val Cys Asp Pro Leu Ser Asp Tyr Asn Val
245 250 255

Trp Ser Met Leu Lys Pro Ile Asn Thr Thr Gly Thr Leu Lys Pro Asp
260 265 270

Asp Arg Val Val Val Ala Ala Thr Arg Leu Asp Ser Arg Ser Phe Phe
275 280 285

Trp Asn Val Ala Pro Gly Ala Glu Ser Ala Val Ala Ser Phe Val Thr
290 295 300

Gln Leu Ala Ala Ala Glu Ala Leu Gln Lys Ala Pro Asp Val Thr Thr
305 310 315 320

Leu Pro Arg Asn Val Met Phe Val Phe Phe Gln Gly Glu Thr Phe Asp
325 330 335

Tyr Ile Gly Ser Ser Arg Met Val Tyr Asp Met Glu Lys Gly Lys Phe
340 345 350

Pro Val Gln Leu Glu Asn Val Asp Ser Phe Val Glu Leu Gly Gln Val
355 360 365

Ala Leu Arg Thr Ser Leu Glu Leu Trp Met His Thr Asp Pro Val Ser
370 375 380

Gln Lys Asn Glu Ser Val Arg Asn Gln Val Glu Asp Leu Leu Ala Thr

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385                               390                               395                               400

Leu Glu Lys Ser Gly Ala Gly Val Pro Ala Val Ile Leu Arg Arg Pro
      405                               410                               415

Asn Gln Ser Gln Pro Leu Pro Pro Ser Ser Leu Gln Arg Phe Leu Arg
      420                               425                               430

Ala Arg Asn Ile Ser Gly Val Val Leu Ala Asp His Ser Gly Ala Phe
      435                               440                               445

His Asn Lys Tyr Tyr Gln Ser Ile Tyr Asp Thr Ala Glu Asn Ile Asn
      450                               455                               460

Val Ser Tyr Pro Glu Trp Leu Ser Pro Glu Glu Asp Leu Asn Phe Val
      465                               470                               475                               480

Thr Asp Thr Ala Lys Ala Leu Ala Asp Val Ala Thr Val Leu Gly Arg
      485                               490                               495

Ala Leu Tyr Glu Leu Ala Gly Gly Thr Asn Phe Ser Asp Thr Val Gln
      500                               505                               510

Ala Asp Pro Gln Thr Val Thr Arg Leu Leu Tyr Gly Phe Leu Ile Lys
      515                               520                               525

Ala Asn Asn Ser Trp Phe Gln Ser Ile Leu Arg Gln Asp Leu Arg Ser
      530                               535                               540

Tyr Leu Gly Asp Gly Pro Leu Gln His Tyr Ile Ala Val Ser Ser Pro
      545                               550                               555                               560

Thr Asn Thr Thr Tyr Val Val Gln Tyr Ala Leu Ala Asn Leu Thr Gly
      565                               570                               575

Thr Val Val Asn Leu Thr Arg Glu Gln Cys Gln Asp Pro Ser Lys Val
      580                               585                               590

Pro Ser Glu Asn Lys Asp Leu Tyr Glu Tyr Ser Trp Val Gln Gly Pro
      595                               600                               605

Leu His Ser Asn Glu Thr Asp Arg Leu Pro Arg Cys Val Arg Ser Thr
      610                               615                               620

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Ala Arg Leu Ala Arg Ala Leu Ser Pro Ala Phe Glu Leu Ser Gln Trp
625 630 635 640

Ser Ser Thr Glu Tyr Ser Thr Trp Thr Glu Ser Arg Trp Lys Asp Ile
645 650 655

Arg Ala Arg Ile Phe Leu Ile Ala Ser Lys Glu Leu Glu Leu Ile Thr
660 665 670

Leu Thr Val Gly Phe Gly Ile Leu Ile Phe Ser Leu Ile Val Thr Tyr
675 680 685

Cys Ile Asn Ala Lys Ala Asp Val Leu Phe Ile Ala Pro Arg Glu Pro
690 695 700

Gly Ala Val Ser Tyr
705

<210> 9
<211> 347
<212> PRT
<213> Homo sapiens

<400> 9

Met Ala Gln Ser Arg Asp Gly Gly Asn Pro Phe Ala Glu Pro Ser Glu
1 5 10 15

Leu Asp Asn Pro Phe Gln Asp Pro Ala Val Ile Gln His Arg Pro Ser
20 25 30

Arg Gln Tyr Ala Thr Leu Asp Val Tyr Asn Pro Phe Glu Thr Arg Glu
35 40 45

Pro Pro Pro Ala Tyr Glu Pro Pro Ala Pro Ala Pro Leu Pro Pro Pro
50 55 60

Ser Ala Pro Ser Leu Gln Pro Ser Arg Lys Leu Ser Pro Thr Glu Pro
65 70 75 80

Lys Asn Tyr Gly Ser Tyr Ser Thr Gln Ala Ser Ala Ala Ala Ala Thr
85 90 95

Ala Glu Leu Leu Lys Lys Gln Glu Glu Leu Asn Arg Lys Ala Glu Glu
100 105 110

55382-23.ST25.txt

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Leu Asp Arg Arg Glu Arg Glu Leu Gln His Ala Ala Leu Gly Gly Thr
 115                      120                      125

Ala Thr Arg Gln Asn Asn Trp Pro Pro Leu Pro Ser Phe Cys Pro Val
 130                      135                      140

Gln Pro Cys Phe Phe Gln Asp Ile Ser Met Glu Ile Pro Gln Glu Phe
 145                      150                      155                      160

Gln Lys Thr Val Ser Thr Met Tyr Tyr Leu Trp Met Cys Ser Thr Leu
                      165                      170                      175

Ala Leu Leu Leu Asn Phe Leu Ala Cys Leu Ala Ser Phe Cys Val Glu
 180                      185                      190

Thr Asn Asn Gly Ala Gly Phe Gly Leu Ser Ile Leu Trp Val Leu Leu
 195                      200                      205

Phe Thr Pro Cys Ser Phe Val Cys Trp Tyr Arg Pro Met Tyr Lys Ala
 210                      215                      220

Phe Arg Ser Asp Ser Ser Phe Asn Phe Phe Val Phe Phe Phe Ile Phe
 225                      230                      235                      240

Phe Val Gln Asp Val Leu Phe Val Leu Gln Ala Ile Gly Ile Pro Gly
 245                      250                      255

Trp Gly Phe Ser Gly Trp Ile Ser Ala Leu Val Val Pro Lys Gly Asn
 260                      265                      270

Thr Ala Val Ser Val Leu Met Leu Leu Val Ala Leu Leu Phe Thr Gly
 275                      280                      285

Ile Ala Val Leu Gly Ile Val Met Leu Lys Arg Ile His Ser Leu Tyr
 290                      295                      300

Arg Arg Thr Gly Ala Ser Phe Gln Lys Ala Gln Gln Glu Phe Ala Ala
 305                      310                      315                      320

Gly Val Phe Ser Asn Pro Ala Val Arg Thr Ala Ala Ala Asn Ala Ala
 325                      330                      335

Ala Gly Ala Ala Glu Asn Ala Phe Arg Ala Pro
 340                      345

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55382-23.ST25.txt

<210> 10
 <211> 321
 <212> PRT
 <213> Homo sapiens

<400> 10

Met Ala Gln Ser Arg Asp Gly Gly Asn Pro Phe Ala Glu Pro Ser Glu
 1 5 10 15

Leu Asp Asn Pro Phe Gln Pro Pro Pro Ala Tyr Glu Pro Pro Ala Pro
 20 25 30

Ala Pro Leu Pro Pro Pro Ser Ala Pro Ser Leu Gln Pro Ser Arg Lys
 35 40 45

Leu Ser Pro Thr Glu Pro Lys Asn Tyr Gly Ser Tyr Ser Thr Gln Ala
 50 55 60

Ser Ala Ala Ala Ala Thr Ala Glu Leu Leu Lys Lys Gln Glu Glu Leu
 65 70 75 80

Asn Arg Lys Ala Glu Glu Leu Asp Arg Arg Glu Arg Glu Leu Gln His
 85 90 95

Ala Ala Leu Gly Gly Thr Ala Thr Arg Gln Asn Asn Trp Pro Pro Leu
 100 105 110

Pro Ser Phe Cys Pro Val Gln Pro Cys Phe Phe Gln Asp Ile Ser Met
 115 120 125

Glu Ile Pro Gln Glu Phe Gln Lys Thr Val Ser Thr Met Tyr Tyr Leu
 130 135 140

Trp Met Cys Ser Thr Leu Ala Leu Leu Leu Asn Phe Leu Ala Cys Leu
 145 150 155 160

Ala Ser Phe Cys Val Glu Thr Asn Asn Gly Ala Gly Phe Gly Leu Ser
 165 170 175

Ile Leu Trp Val Leu Leu Phe Thr Pro Cys Ser Phe Val Cys Trp Tyr
 180 185 190

Arg Pro Met Tyr Lys Ala Phe Arg Ser Asp Ser Ser Phe Asn Phe Phe
 195 200 205

55382-23.ST25.txt

Val Phe Phe Phe Ile Phe Phe Val Gln Asp Val Leu Phe Val Leu Gln
210 215 220

Ala Ile Gly Ile Pro Gly Trp Gly Phe Ser Gly Trp Ile Ser Ala Leu
225 230 235 240

Val Val Pro Lys Gly Asn Thr Ala Val Ser Val Leu Met Leu Leu Val
245 250 255

Ala Leu Leu Phe Thr Gly Ile Ala Val Leu Gly Ile Val Met Leu Lys
260 265 270

Arg Ile His Ser Leu Tyr Arg Arg Thr Gly Ala Ser Phe Gln Lys Ala
275 280 285

Gln Gln Glu Phe Ala Ala Gly Val Phe Ser Asn Pro Ala Val Arg Thr
290 295 300

Ala Ala Ala Asn Ala Ala Ala Gly Ala Ala Glu Asn Ala Phe Arg Ala
305 310 315 320

Pro

<210> 11
<211> 541
<212> PRT
<213> Homo sapiens

<400> 11

Met Lys Phe Leu Ile Phe Ala Phe Phe Gly Gly Val His Leu Leu Ser
1 5 10 15

Leu Cys Ser Gly Lys Ala Ile Cys Lys Asn Gly Ile Ser Lys Arg Thr
20 25 30

Phe Glu Glu Ile Lys Glu Glu Ile Ala Ser Cys Gly Asp Val Ala Lys
35 40 45

Ala Ile Ile Asn Leu Ala Val Tyr Gly Lys Ala Gln Asn Arg Ser Tyr
50 55 60

Glu Arg Leu Ala Leu Leu Val Asp Thr Val Gly Pro Arg Leu Ser Gly
65 70 75 80

55382-23.ST25.txt

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Ser Lys Asn Leu Glu Lys Ala Ile Gln Ile Met Tyr Gln Asn Leu Gln
      85                      90                      95

Gln Asp Gly Leu Glu Lys Val His Leu Glu Pro Val Arg Ile Pro His
      100                      105                      110

Trp Glu Arg Gly Glu Glu Ser Ala Val Met Leu Glu Pro Arg Ile His
      115                      120                      125

Lys Ile Ala Ile Leu Gly Leu Gly Ser Ser Ile Gly Thr Pro Pro Glu
      130                      135                      140

Gly Ile Thr Ala Glu Val Leu Val Val Thr Ser Phe Asp Glu Leu Gln
      145                      150                      155                      160

Arg Arg Ala Ser Glu Ala Arg Gly Lys Ile Val Val Tyr Asn Gln Pro
      165                      170                      175

Tyr Ile Asn Tyr Ser Arg Thr Val Gln Tyr Arg Thr Gln Gly Ala Val
      180                      185                      190

Glu Ala Ala Lys Val Gly Ala Leu Ala Ser Leu Ile Arg Ser Val Ala
      195                      200                      205

Ser Phe Ser Ile Tyr Ser Pro His Thr Gly Ile Gln Glu Tyr Gln Asp
      210                      215                      220

Gly Val Pro Lys Ile Pro Thr Ala Cys Ile Thr Val Glu Asp Ala Glu
      225                      230                      235                      240

Met Met Ser Arg Met Ala Ser His Gly Ile Lys Ile Val Ile Gln Leu
      245                      250                      255

Lys Met Gly Ala Lys Thr Tyr Pro Asp Thr Asp Ser Phe Asn Thr Val
      260                      265                      270

Ala Glu Ile Thr Gly Ser Lys Tyr Pro Glu Gln Val Val Leu Val Ser
      275                      280                      285

Gly His Leu Asp Ser Trp Asp Val Gly Gln Gly Ala Met Asp Asp Gly
      290                      295                      300

Gly Gly Ala Phe Ile Ser Trp Glu Ala Leu Ser Leu Ile Lys Asp Leu
      305                      310                      315                      320

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55382-23.ST25.txt

Gly Leu Arg Pro Lys Arg Thr Leu Arg Leu Val Leu Trp Thr Ala Glu
 325 330 335

Glu Gln Gly Gly Val Gly Ala Phe Gln Tyr Tyr Gln Leu His Lys Val
 340 345 350

Asn Ile Ser Asn Tyr Ser Leu Val Met Glu Ser Asp Ala Gly Thr Phe
 355 360 365

Leu Pro Thr Gly Leu Gln Phe Thr Gly Ser Glu Lys Ala Arg Ala Ile
 370 375 380

Met Glu Glu Val Met Ser Leu Leu Gln Pro Leu Asn Ile Thr Gln Val
 385 390 395 400

Leu Ser His Gly Glu Gly Thr Asp Ile Asn Phe Trp Ile Gln Ala Gly
 405 410 415

Val Pro Gly Ala Ser Leu Leu Asp Asp Leu Tyr Lys Tyr Phe Phe Phe
 420 425 430

His His Ser His Gly Asp Thr Met Thr Val Met Asp Pro Ser Arg Trp
 435 440 445

Met Leu Leu Leu Leu Phe Gly Leu Leu Phe Leu Met Leu Leu Gln Thr
 450 455 460

Trp Lys Lys Cys Cys Leu Gly Pro Arg Asn Ser Lys Lys Glu Thr Phe
 465 470 475 480

Ser Cys Phe Trp Pro Gly Ile Leu Gly Leu Gln Leu Trp Lys Thr Pro
 485 490 495

Leu His Ile Thr Ile Ser Ser Asn Ser Ser Ser Lys His Asn Ser Ile
 500 505 510

Ser Cys Phe Leu Leu Leu Ser Phe Leu Ile Leu Ser Lys Phe Ser Asp
 515 520 525

Ser Arg Lys Arg Asn His Ser Pro Leu Pro Pro Thr Thr
 530 535 540

<210> 12

55382-23.ST25.txt

<211> 441

<212> PRT

<213> Homo sapiens

<400> 12

Met Val Pro Pro Lys Leu His Val Leu Phe Cys Leu Cys Gly Cys Leu
 1 5 10 15

Ala Val Val Tyr Pro Phe Asp Trp Gln Tyr Ile Asn Pro Val Ala His
 20 25 30

Met Lys Ser Ser Ala Trp Val Asn Lys Ile Gln Val Leu Met Ala Ala
 35 40 45

Ala Ser Phe Gly Gln Thr Lys Ile Pro Arg Gly Asn Gly Pro Tyr Ser
 50 55 60

Val Gly Cys Thr Asp Leu Met Phe Asp His Thr Asn Lys Gly Thr Phe
 65 70 75 80

Leu Arg Leu Tyr Tyr Pro Ser Gln Asp Asn Asp Arg Leu Asp Thr Leu
 85 90 95

Trp Ile Pro Asn Lys Glu Tyr Phe Trp Gly Leu Ser Lys Phe Leu Gly
 100 105 110

Thr His Trp Leu Met Gly Asn Ile Leu Arg Leu Leu Phe Gly Ser Met
 115 120 125

Thr Thr Pro Ala Asn Trp Asn Ser Pro Leu Arg Pro Gly Glu Lys Tyr
 130 135 140

Pro Leu Val Val Phe Ser His Gly Leu Gly Ala Phe Arg Thr Leu Tyr
 145 150 155 160

Ser Ala Ile Gly Ile Asp Leu Ala Ser His Gly Phe Ile Val Ala Ala
 165 170 175

Val Glu His Arg Asp Arg Ser Ala Ser Ala Thr Tyr Tyr Phe Lys Asp
 180 185 190

Gln Ser Ala Ala Glu Ile Gly Asp Lys Ser Trp Leu Tyr Leu Arg Thr
 195 200 205

Leu Lys Gln Glu Glu Glu Thr His Ile Arg Asn Glu Gln Val Arg Gln

210

215

220

Arg Ala Lys Glu Cys Ser Gln Ala Leu Ser Leu Ile Leu Asp Ile Asp
 225 230 235 240

His Gly Lys Pro Val Lys Asn Ala Leu Asp Leu Lys Phe Asp Met Glu
 245 250 255

Gln Leu Lys Asp Ser Ile Asp Arg Glu Lys Ile Ala Val Ile Gly His
 260 265 270

Ser Phe Gly Gly Ala Thr Val Ile Gln Thr Leu Ser Glu Asp Gln Arg
 275 280 285

Phe Arg Cys Gly Ile Ala Leu Asp Ala Trp Met Phe Pro Leu Gly Asp
 290 295 300

Glu Val Tyr Ser Arg Ile Pro Gln Pro Leu Phe Phe Ile Asn Ser Glu
 305 310 315 320

Tyr Phe Gln Tyr Pro Ala Asn Ile Ile Lys Met Lys Lys Cys Tyr Ser
 325 330 335

Pro Asp Lys Glu Arg Lys Met Ile Thr Ile Arg Gly Ser Val His Gln
 340 345 350

Asn Phe Ala Asp Phe Thr Phe Ala Thr Gly Lys Ile Ile Gly His Met
 355 360 365

Leu Lys Leu Lys Gly Asp Ile Asp Ser Asn Val Ala Ile Asp Leu Ser
 370 375 380

Asn Lys Ala Ser Leu Ala Phe Leu Gln Lys His Leu Gly Leu His Lys
 385 390 395 400

Asp Phe Asp Gln Trp Asp Cys Leu Ile Glu Gly Asp Asp Glu Asn Leu
 405 410 415

Ile Pro Gly Thr Asn Ile Asn Thr Thr Asn Gln His Ile Met Leu Gln
 420 425 430

Asn Ser Ser Gly Ile Glu Lys Tyr Asn
 435 440

55382-23.ST25.txt

<210> 13
 <211> 212
 <212> PRT
 <213> Homo sapiens

<400> 13

Met Met Gly Ile Pro Ile Arg Lys Phe Ile Cys Ala Ser Asn Gln Asn
 1 5 10 15

His Val Leu Thr Asp Phe Ile Lys Thr Gly His Tyr Asp Leu Arg Glu
 20 25 30

Arg Lys Leu Ala Gln Thr Phe Ser Pro Ser Ile Asp Ile Leu Lys Ser
 35 40 45

Ser Asn Leu Glu Arg His Leu His Leu Met Ala Asn Asn Arg Leu Glu
 50 55 60

Ser Gln His His Phe Gln Ile Glu Lys Ala Leu Val Glu Lys Leu Gln
 65 70 75 80

Gln Asp Phe Val Ala Asp Trp Cys Ser Glu Gly Glu Cys Leu Ala Ala
 85 90 95

Ile Asn Ser Thr Tyr Asn Thr Ser Gly Tyr Ile Leu Asp Pro His Thr
 100 105 110

Ala Val Ala Lys Val Val Ala Asp Arg Val Gln Asp Lys Thr Cys Pro
 115 120 125

Val Ile Ile Ser Ser Thr Ala His Tyr Ser Lys Phe Ala Pro Ala Ile
 130 135 140

Met Gln Ala Leu Lys Ile Lys Glu Ile Asn Glu Thr Ser Ser Ser Gln
 145 150 155 160

Leu Tyr Leu Leu Gly Ser Tyr Asn Ala Leu Pro Pro Leu His Glu Ala
 165 170 175

Leu Leu Glu Arg Thr Lys Gln Gln Glu Lys Met Glu Tyr Gln Val Cys
 180 185 190

Ala Ala Asp Met Asn Val Leu Lys Ser His Val Glu Gln Leu Val Gln
 195 200 205

Asn Gln Phe Ile
210

<210> 14
<211> 14
<212> PRT
<213> Homo sapiens

<400> 14

Cys Ser Asp Thr Ser Pro Asp Thr Glu Glu Ser Tyr Ser Asp
1 5 10

<210> 15
<211> 15
<212> PRT
<213> Homo sapiens

<400> 15

Cys Ser Asp Leu Lys Arg Ser Leu Gly Phe Val Ser Lys Val Glu
1 5 10 15

<210> 16
<211> 9
<212> PRT
<213> Homo sapiens

<400> 16

Cys Ala Glu Glu Glu Lys Glu Glu Leu
1 5